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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,039	04/25/2001	Toshihiro Mori	018775-824	4356

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EXAMINER

DASTOURI, MEHRDAD

ART UNIT PAPER NUMBER

2623

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,039

Applicant(s)

MORI, TOSHIHIRO

Examiner

Mehrdad Dastouri

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/13/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 14-21 are objected to because of the following informalities:

In Line 14 of Claims 14 and 21, and in Line 15 of Claim 20, "an target" should be corrected to "a target". Claims 15-19 depend on Claim 14.

Appropriate correction is required.

Specification

2. Specification disclosure is objected to because of the following informalities:

In Page 2, Line 8 (and similar occurrences throughout the specification), "an target" should be corrected to "a target".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 14, 15, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al. (U.S. 5,390,003).

Regarding Claim 14, Yamaguchi et al. disclose a pattern-detection apparatus that detects a specific pattern contained in an image, said pattern-detection apparatus comprising:

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a binarizing unit that binarizes an input image data to obtain binary image data (Figure 5, Binarization Section; Column 11, Lines 46-52),

a partial-image recognition unit that recognizes a partial image being contained in said binary image data and being part of said specific pattern (Figure 10, Circular Pattern; Column 11, Lines 53-56) , and

a specific pattern determination unit that determines said specific pattern contained in said image, based on the recognition results obtained by said partial-image recognition unit (Column 11, Lines 57-62),

wherein said partial-image recognition unit recognizes partial image contained in said binary image data, for a pixel-block area having a predetermined size and containing an target pixel in said binary image data, based on at least one of the conditions concerning the pixels at the opposite vertices, the pixels on the said pixel-block outermost lines of area, and the pixels on the opposite sides on the outermost lines of said pixel-block area (Figures 8 and 10; Column 11, Lines. Partial image recognition is based on the on the outermost lines of the circle which is a partial image of the reference bit map pattern P (Illustrated as rotated reference patterns P1-P8).

Regarding Claim 15, Yamaguchi et al. further disclose the pattern-detection apparatus of Claim 14, wherein said partial image is approximately a circular image (Figure 10, Reference Pattern for Preliminary Decision).

With regards to Claims 20 and 21, arguments analogous to those presented for Claim 1 are applicable to Claim 20 and 21.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (U.S. 5,390,003) in view of the background of the instant invention.

Regarding Claim 16, Yamaguchi et al. do not explicitly disclose specific configuration of the number of OFF-pixels (e.g., white pixels in a binarized image) as a condition for the partial-image recognition.

However, the background of the instant invention disclose the condition for the partial-image recognition in the partial-image recognition unit is the one that the number of OFF-pixels in each pixel pair that is located at opposite vertices is less than 2 (Specification disclosure, Page 2, Lines 6-9. Since the number of ON-pixel within an "m x n" pixel rectangle block area in the neighborhood of a target pixel falls within a predetermined range, inherently, the number of OFF-pixel within that block are also falls within a predetermined range.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize the partial-image pattern to modify Yamaguchi et al.'s invention to incorporate further limitations recited in Claim 16 because it is a well known procedure routinely implemented in the art that can rapidly detect a specific pattern.

With regards to Claims 17 and 18, arguments analogous to those presented for Claim 16 are applicable to Claims 17 and 18.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. (U.S. 5,390,003) in view of Bessho (U.S. 5,898,795).

Regarding claim 19, Yamaguchi et al. do not specifically disclose the pattern-detection apparatus of Claim 14 having further a low-resolution conversion unit that converts said binary image data obtained by said binarizing unit to binary image data of lower resolution, and said partial-image recognition unit recognizing a partial image for said outermost binary image data converted to lower-resolution image data by said low-resolution conversion unit.

Bessho discloses a character recognition method that utilizes a low-resolution conversion of a binary image data for pattern recognition (Figure 4; Column 8, Lines 17-67, Column 9, Lines 1-49. The binary image is further compressed (converted to a lower resolution image) prior to character recognition.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize the partial-image pattern to modify Yamaguchi et al.'s invention according to the teachings of Bessho to incorporate further limitations recited in Claim 19 because it will increase system throughput by reducing the amount of superfluous data to be processed.

Other prior art cited

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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U.S. Patent 6,272,244 to Takahashi et al.;

U.S. Patent 6,347,156 to Kamada et al.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri
Primary Examiner
Art Unit 2623
March 15, 2005

**MEHRDAD DASTOURI
PRIMARY EXAMINER**

